Fluid leadership in a multi-user virtual environment educational project with teenagers: Schome Park

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Fluid leadership in a multi-user virtual environment educational project with teenagers: Schome Park

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Abstract

This paper examines leadership practices in a virtual community, the Schome Park project. Schome Park, based at the Open University, UK, was the first European closed (i.e. protected) island in Teen Second Life, a multi-user 3D virtual environment. This fully realised, complex interactive 3D environment has no imposed narrative and offers significant engagement for educational projects.

The Schome ('not school not home') third space community – i.e. not placed in the first space of home or second space of work/school (Oldenburg, 1989) - was set up with the explicit aim of challenging the instructional models and pedagogic practices of the formal, state educational system. In this disembodied environment identities, represented in the virtual world by personalised avatars, possess usefully ambivalent valences. Often adults will join 'inworld' educational events organised and delivered by the younger members of the community. Schome makes flexible use of a wiki (collaboratively designed website), asynchronous discussion fora and other communicative media to support learning processes and enhance the development of a physically distanced yet authentic learning community.

The authors propose that the community design in these new spaces created an opportunity for leaders to emerge regardless of contextual hierarchy and to forge a developing culture. The paper makes use of evidence from varied datasets to examine manifestations of leadership in the community and issues arising. Young people have been engaged in proposing, planning, executing and reflecting on teaching and learning and governance without deference to adults. Our analysis contributes to understandings of the development of leadership within carefully designed educational online communities and some of the challenges involved for adults in facilitating an appropriately supportive environment for young people.

While aware that this innovative experiment continues to face many challenges, we propose that the design of the project offers much to encourage an approach to education in which collaborative, situated engagement in learning and teaching is perceived as a more fruitful model for the twenty-first century than reproduction of traditional hierarchies of teachers and the taught of conventional classrooms.

Introductory vignette

> On a project discussion board with the theme of archaeology, R mentioned the Caves of Lascaux in France as a possible discussion topic. At the time, a fluid group of people with a small core of regular attendees was meeting every Friday evening for a programme of activities and discussions around archaeology in our 3D virtual world. M quickly took up R's suggestion and sent R a private message:
>
> Hiya R, the caves of Lascaux sound really interesting. Would you like to lead the session on friday? I'm keen to allow different people to take the lead, and it's even better cos you know about them
> If you're not able to take the lead then don't worry, I'll get some links up and we can discuss it by using the media tools etc.
> What do you think?
> M
>
> R was a little diffident in response:
>
> Yes that's fine, M, nice idea, thanks. The only thing is that I have an exceptionally busy week so I doubt I will be able to do much preparation ie I can't rebuild a cave or anything like that! But at the same time yes I'll find out some more and do what I can to make it work.
>
> M reassured R:
>
> No need to build caves etc - just your knowledge and enthusiasm is enough
> See you Friday then...
>
> The session took place on Schome Park island as arranged, duly led by R backed up by M who had also prepared some ideas.

This interchange may strike readers as an unexceptional educational exchange and in some ways this is the case. One person has been skilful in building upon another's idea and used support and persuasion to encourage them to develop it more fully, yet not over-ambitiously, bringing it to fruition in a planned session at which others will benefit from the shared learning.

What perhaps makes the exchange a little more remarkable than it might seem is that M is in real life a young teenager and R an experienced lecturer.

The virtual world, Second Life, allowed them to interact in ways that could be called ‘equal’ but, we will argue in this paper, could be captured more accurately through our proposed description of fluid leadership. To an extent, ‘equality’ over the age range in this project, and potentially although not always in virtual worlds in general is an available characterisation in that everybody interacts through avatars. So the immediate physical characterisations of age, dress and so forth that would influence R’s and M’s interactions in face-to-face environments, particularly educational settings, could never be ignored. In virtual worlds, as Thomas (2007) has observed, it is actually not the case that all avatars are ‘equal’ even in appearance; for example the degree to which each person has customised their avatar may be indicative of differences in power in relation to expertise, economic resource, etc. Nevertheless, as figure 1 of the archaeology meeting indicates, the physical characterisation of the avatars does allow them to escape from the usually fixed differentials of more common educational interactions.

Figure 1: Archaeology Meeting during phase 3

In this paper we will explore some of the ways in which the design of our project, using a unique combination of communication affordances, led to a fluidity of leadership that proved highly creative. We will begin by explaining the Schome Park project, and then demonstrate how the notion of 'communities of practice' offered the most appropriate framework to use for exploring the dynamics of the community. We will discuss evidence to show how we developed the concept of 'fluid leadership' to capture some facets of the interactions among students and staff in the project.

Background: Schome

Schome Park, the setting for activities described in this paper, was the first European enclosed island for teenagers on the Teen Second Life sector of the 3D virtual world Second Life® (See below for explanations of "island" and "enclosed" in this context.) The 3-phase project was set up under the umbrella of the Schome community, or Schommunity as it has become known to its members, which was founded in 2005 by Peter Twining of the Open University. Peter, often fondly referred to as the Benign Dictator by members of the community, oversees the project but actively encourages a learning community which is primarily egalitarian, with notions of fluid leadership as we shall examine. An understanding of this broader context is important to understanding the project itself.

The Schommunity is a group of people including academics, parents, young people, policy makers, educators, and other interested stakeholders. We came together to investigate and attempt to enact a new model of education for the information age, drawing on learning theories especially within a sociocultural perspective and evidence from educational research (including practitioner and action research) in areas such as motivation and the management of change. The developing Schome model represents a cradle to grave approach to personalised, open access lifelong learning, providing actors with increased range, responsibility and control of their learning and greater opportunities for collaboration. It was established with the aim of creating "a new form of educational system designed to overcome the problems associated with current education systems in order to meet the needs of society and individuals in the 21st century" (www.schome.ac.uk). To achieve this aim this virtual community has sought and engaged with a wide variety of perspectives on educational practices and potential educational futures, consistently enacting a view that genuine participation by learners must be instantiated at all stages of planning and operationalizing education. Unrestricted by curriculum, Schome learners

are constructing a taxonomy of knowledge age skills against which their learning can be mapped.

The Schommunity uses a range of online media, including a wiki and forum, to explore a wide variety of perspectives on educational practices and potential educational futures, in order to broaden thinking and debate about educational possibilities as well as to gather evidence about the effectiveness of alternative approaches. Within the Schommunity technology is seen not only as a tool to support and extend existing practices but also as having the potential to transform ways of supporting learning and representing the world and our interactions in it. It thus has the potential to change what we need and ask of our education systems – though we are wary to avoid falling into the trap of being technologically determined or driven. The Schommunity decided to explore the potential of virtual worlds, considering their capacity to act as spaces in which visions of future practices and pedagogies can be built and experienced, making it "possible to construct, investigate and interrogate hypothetical worlds" (Squire, 2006, p. 19).

Virtual worlds usually combine a desktop virtual environment with synchronous chat communication. The Schommunity particularly considered use of those worlds which '...share three distinctive features: the illusion of three-dimensional space, avatars which serve as the visual representation of users and interactive chat which allows users to communicate with each other synchronously' (Sheehy, Ferguson, & Clough, 2007).

Our explorations of the virtual world Second Life, a 3D virtual world designed and owned by the private company Linden Lab, led Schome to decide that it provided exciting learning opportunities. Second Life is a rapidly expanding, complex and interactive three dimensional virtual world, with over 14.2 million registered users worldwide (Linden Research Inc., 2008). Users of the environment, usually termed residents, are unrestricted by any externally imposed narrative (e.g. game or role play) and can design and create whatever they want/need to function inworld, including homes, vehicles, nightclubs, stores, landscapes, clothing and games. Second Life has its own currency with a fluctuating exchange rate, and operates a free market economy, although it is perfectly possible to participate in the world without spending any money at all. Many companies and education providers are now using Second Life as a meeting space, research environment, test bed and, more importantly, a teaching and learning space, driven by the '[...] significant potential for rich, immersive teaching and learning activities, providing semi-authentic contexts for simulation, role play and experiential learning.' (Peachey, 2008).

3D virtual reality worlds have in the past been limited in their capabilities, not least because the majority of them were designed as multiplayer games providing limited functionality specifically linked to the objectives of the game. With the development of Second Life this technology has moved into a new phase, where the environment does not have any pre-defined objectives that users have to achieve and the functionality provided is intended to enable users to have maximum creative control of the environment. Thus the educational scope is potentially much greater within Second Life than in any of the other 3D virtual reality worlds that are readily available.

Videogames and online multiplayer game worlds have been documented to be the site of "naturally occurring, intrinsically motivated learning" (Squire, 2006, p. 22; see also Dovey & Kennedy, 2006; Gee, 2003; Steinkuhler, 2007). Embedding a culture of learning is a key goal for many models of education, applying from the Early Years (Carr, 2001) throughout at least all years of employment (Leitch, 2006). In a context of constant technical innovation and ever-changing needs and orientations, fostering a learning disposition is equally relevant to teachers as it is to learners and so it is vital that we move into a different concept of the teacher-learner role from that of 'instructor-trainee' to a community of co-learners (Merchant, 2007). Working together in a cutting-edge, itself rapidly changing, technological environment cannot be a context in which anyone can authentically present themselves as the carrier of all relevant knowledge and skills.

As videogames, virtual worlds offer "designed experiences, in which participants learn through a grammar of doing and being" (Squire, 2006, p.19). Squire's notion of a "grammar" here is useful in drawing attention to the repertoire for performance of agency that is patterned yet less constrained in a virtual world than it is in a videogame, since there is an absence of goals. We are aware that this contrast is over-simplified but contest that it has broad validity.

Schome Park: affordances as a community of practice

Schome Park in Teen Second Life has been open in three phases: February – May 2007: the pilot phase, May – December 2007: Schome Park II and then from January-May 2008 the third phase when two islands (Alpha and Beta) operated. It is immediately important to emphasise that the Schome project makes use of a combination of tools that complement Second Life activity. The egalitarian nature of Schome is exemplified in the access given to the forums and to the wiki, where any member of the community may edit any page, including the front page, index and other key elements. Only a small sample of the forums is kept private, accessible to staff who have a Criminal Records Bureau (CRB) clearance for discussion of issues relating to child protection. As the project developed, different members became increasingly involved in the diverse domains of activity as they developed their expertise and interest. For example, in the third phase of the project i.e. after about 8 months of engagement, some young people took over 'terraforming' - designing the terrain of Alpha, - an activity which had previously been restricted to a small number of staff members who had helped to construct the original format of the island. Archaeology was introduced into phase 1 as a designed curriculum strand by members of staff; it continued into phases 2 and 3 through students' initiatives. Members of staff developed various expertise too, for example one who joined in phase 2 collaborated with students and staff who already had developed skills in machinima (videoing events in world, editing into a single video with additional material and then uploading to a website) so that she came to lead a machinima production.

Within the Schommunity generally, young people have been empowered by their familiarity and ease with technology, and by the lack of an imposed hierarchical structure in the online environment, to negotiate and establish their own method of governance where anyone can propose and execute a teaching session. Young people are often autonomous in proposing and discussing sessions in the forum, posting a time and inworld location for a session to the events schedule and linking this to an

information and sign up page they create on the wiki. It is equally probable that staff will sign up to attend and do so with no other agenda than to learn from what is on offer. Subject strands and projects offered so far have included Governance, Archaeology, Artificial intelligence, Physics, Languages, Research, Marina, Theme Park, Media and design, Machinima and Ethics and Philosophy. Some of these have been initiated by staff, some by students and some in ways it would be difficult to disentangle! All of these though have featured collaborative activities by students and staff.

We feel that the concept of 'communities of practice' fits activity within the Schome Park project better than alternative frameworks. Lave and Wenger (1991) describe the links between learning, modifications of identity and practice in their characterisation that we have found relevant to understanding the shifting activities, developing expertise and modifications of identity that were indeed illustrated in the introductory vignette. From the more macro viewpoint too we feel this characterisation fits particularly well, see Table 1. 'Although Wenger, McDermott & Snyder (2002) were focussing on business models, we feel that beyond minor differences in terminology other kinds of second and third space structures and communities may be explored in these terms. Again, we shall return to this characterisation below.

Table 1: Distinctions between communities of practice and other structures
(slightly adapted from Wenger, McDermott & Snyder, 2002, p. 42)

	What's the purpose?	Who belongs?	How clear are the boundaries?	What holds them together?	How long do they last?
Formal departments	To deliver a product or service	Everyone who reports to the group's manager	Clear	Job requirements and common goals	Intended to be permanent (but last until the next reorganization)
Operational teams	To take care of an ongoing operation or process	Membership assigned by management	Clear	Shared responsibility for the operation	Intended to be ongoing (but last as long as the operation is needed)
Project teams	To accomplish a specific task	People who have a direct role in accomplishing the task	Clear	The project's goals and milestones	Predetermined ending (when the project has been completed)
Communities of interest	To be informed	Whoever is interested	Fuzzy	Access to information and sense of likemindedness	Evolve and end organically
Informal networks	To receive and pass on information, to know who is who	Friends and business acquaintances, friends of friends	Undefined	Mutual need and relationships	Never really start or end (exist as long as people keep in touch or remember each other)
Communities of practice	To create, expand and exchange knowledge, and to develop individual capabilities	Self-selection based on expertise or passion for a topic	Fuzzy	Passion, commitment, and identification with the group and its expertise	Evolve and end organically (last as long as there is relevance to the topic and value and interest in learning together)

Regattas in Schome Park: method

For this paper, we have decided to focus upon activities connected with two sailing regattas in Schome Park. There is a vast range of activities available for examination and reflection but, rather than try to deal with these in any breadth, we feel it will be more useful for this paper to focus on one sphere of activity drawing evidence from a number of communicative modes. We have also decided to pay particular attention to one Schome Parker or 'Sparker' - Sparker T - who was involved with the project during all three phases (i.e. over 13 months) and was particularly interested in sailing.

In phases 1 and 2 the island was surrounded by water, making (circum) navigation by boats possible. In phase 3 there were two islands, potentially increasing the area of water available but in practice since more terrain extension and building other structures in the water took place, sailing was not necessarily easier and sometimes rendered more difficult than in the previous two phases.

In order to sail a boat one has to perform the following tasks through one's avatar: (a) acquire, build, or customise a boat; (b) locate the boat in an appropriate setting; (c) board the boat and (d) 'sail' the boat i.e. propel it in a certain direction. All of these have the potential to present some difficulties to the novice and demand a certain level of Second Life skills. However, we shall mostly move past these (as hardly documented and outside the immediate scope of this paper) instead to regattas, i.e. where someone or some people had the idea, or took the idea, of organising and running a regatta which some project participants then joined in.

In the discussion that follows, we will reference (discussions of) data from various communicative domains. It is important to mention that we cannot present data that is a straightforward record of what happened 'inworld' i.e. in Teen Second Life – this is as ephemeral as interactions in 'real life' and, arguably, even harder to record since any records (eg video, still images, textual recordings) are made from a single point of view, involving acts of selection to craft them into a lasting form. We adopt a method that might be called 'narrative ethnographic'. That is, we combine records of data from various sources in order to try to capture at least some elements of the experience from vantage points of participants, to the extent this was or (even more saliently) is now available to us. The 'narrative' element is present in that we choose to weave our discussion into a chronological thread (despite the fact that nobody would have followed it through as such in the project) and adhere to the 'regatta' theme (although every participant was attending to other activities as well during at least part of the time they were engaged with the regatta). This is an appropriate technique for this form of dissemination, where we have the medium constraints of text and still image. Sampling of data is therefore purposeful in that we endeavour to give the reader a necessarily limited sense of the activity under purview and in particular some glimpses into decision-making.

Regatta 1

The first regatta was organised approximately one month into Phase 1, on April 11th 2007. The previous day one of the students, Sparker D, had objected – in a very friendly way – to a national newspaper article (Guardian April 6, 2007) which had characterised the project as a new kind of classroom:

'tisn't a classroom as such, just a collection of people sharing interests with a couple of (sometimes, but not always) more experienced/knowledgeable adults...

http://www.schome.ac.uk/forum/index.php?topic=483.0
(accessed 3 July 2008)

The way that the regatta was organised by means of a wiki page gave substance to Sparker D's early but percipient observation on the project. The event's parameters of date, time, location and description had been posted up by two staff members, Mark and Peter, who had however listed Sparker A as the main organiser. Sparker A then began to make minor modifications to the wiki page.

The way that the event was advertised included characteristic features of organisation in phase 1. Although events such as the regatta were discussed inworld, staff (i.e. adult) input was useful if not essential in guiding and facilitating the making of firm decisions and consequent plans of action. Staff also modelled ways in which differential levels of expertise among participants could be catered for. In this case there were two events planned under the Regatta umbrella:

The powerboat event:
This will involve a time trial round our powerboat course (the red route on the marina map) lasting 2 laps fastest time wins!
You can come **at any point up until 9:30pm** where one of the officials will time you as you take the route.
The boats that are allowed are any boats that can get under a bridge...

The sail event:
At 8:30pm we will hold a race around the archipelago (Yellow route on map) lasting ten laps that simple
The boat that is allowed is a specific boat that will be given at the event

http://www.schome.ac.uk/wiki/Schome_Park_Regatta_1

In order to reinforce the message that entering the sail event was likely to be easier, and to encourage beginners and novices, one staff member added the following note, in a familiar pedagogic register:

Taking part is more important than winning however - so don't worry if you've never raced a boat before PeterT 08:54, 9 April 2007
(as above)

Preparing for the first regatta involved complex activities that Sparker T and Sparker A initiated including: terraforming the island; changing the island's geography to make circumnavigation possible, and temporarily removing several buildings. All participants needed access to boats, and the sailboats had to be of the same standard, not programmed to move at different speeds. Controlling such boats is not easy, and requires training and practice on top of basic Second Life skills of coordination.

While it is easy for avatars to find their way around Second Life by flying or teleporting, remaining at ground level makes navigation difficult. The organisers therefore had to produce and distribute a map of the island, using software to outline the course. On the day, the route had to be explained and demonstrated on several occasions.

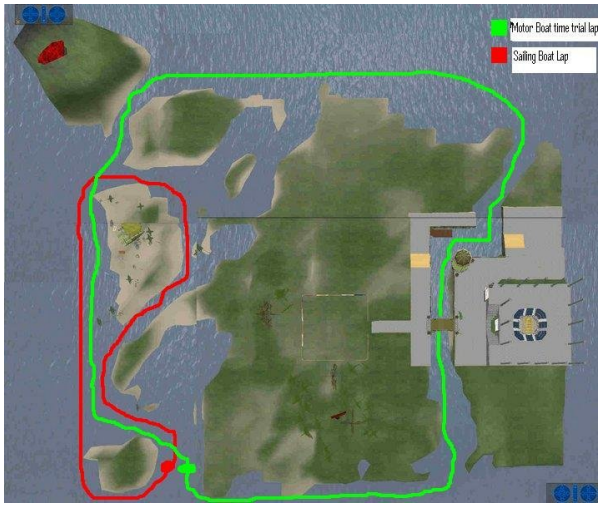

Figure 2: Regatta Course as uploaded by Sparker T

In-world communication is difficult when large groups of people are spread across the island, as Second Life's chat line only contains chat from avatars to a distance of 30m (at relative scaling). The organisers experimented with setting up a new group, all of whom could be contacted simultaneously by IM. This proved difficult, as participants arrived and left throughout the event. More successful was the signalling system, scripted to release particles: red to signal two minutes until the start, yellow as a one minute warning, green to signal the start of the race, black to signal a false start and blue to signal that a protest had been lodged. There was also a scripted timer in use. Scripting and the use of particles are advanced Second Life skills.

Sparker A posted the following account of day 1 of the regatta on the wiki:

> First day and first time for the marina, the first event on the calender was the powerboat trials. rules were simple, get round the course twice in the fastest time. First up was [sparker L] who got round in 313s, this was then followed by [sparker W] in 307s giving him the lead, up to this point the sch-op boats were proving to be capable in this terrain, however our next competitor [sparker B] showed the spirit to bulid his own boat for the contest, designed like a jet ski, his boat was the fastest on the course... but was it too fast? the boat had some problems due to the hover techinque used and ended up sinking, good for him he carried on round the course to the end, most people would of given up but he showed the spirit of creating a boat for the course and finishing to the end ,
> We were due to have our 4th compeitior, mark cabaret on the course and just as he got his baot ready, a horrific occurance took place
> **UBER LAG**
> Lets see what happened to [sparker F] and mark's boats...

'Uber lag' refers to technical difficulties with Second Life, whereby the software 'hangs' or crashes. Sparker A has chosen to 'officially' record the crash depicted in the image as being caused by a software failure. It is however possible that this account may be to 'save face' and conceal limited skills on the part of Mark, a staff member, or perhaps even playful sabotage by other participants. Certainly Sparkers A and T had to deal with other challenges, as is exemplified by their decree as to a definition of a powerboat:

'…any vessel that can pass under the bridges whilst floating on the water, NO SUBMARINES!!'

They also had to deal with elaborate new forms of cheating, either by changing the scripting on a boat, using wings as sails or, as one Sparker claimed, 'I also saw him hop out of his first boat, fly the course, then hop into his second boat which was minutes away.'

The eventful regatta took place over 3 days; a final adjudication of three overall winners (obviously not including the organisers) was decided upon and recorded although disagreement as to the third placing, together with explanations was politely retained in the wiki. Seven months later, Sparker T went back to this wiki report and slightly corrected the wording that had last been revised 7 months previously. His amendment is slight in pragmatic force, but suggests passionate interest that the records should be as accurate as possible according to his perspective. And even later than this, another Sparker who may or may not have been involved in regatta 1 at all, added a helpful bar to the top of the page to enable easy linking between regatta reports and other documents appertaining to the 'marina team'.

Regatta 2

The second Schome Park regatta took place on the evenings of Friday 12 October, Saturday 13 October and Sunday 14 October. The three-day event included six races, a prize-giving ceremony and a post-regatta celebration. In addition, there were planning meetings and training events at which Sparkers could learn to sail different boats in world. This event was entirely organised by Sparkers, with Sparker T and Sparker A taking the lead. The event took approximately two weeks to plan, using the resources of the wiki, the forum and Second Life. Here follows the summary plan for the final day, where Sparker T was the main organiser:

Sunday 14 October
6.30pm Long skill race
7pm Short motor time trials
8pm Open race
8.30pm Prizes and dancing
Officer of the day: [Sparker T]
For the sail race: The starting sequence will be 2 1 Go (red flag will be raised 2 mins before the start, yellow 1 minute, green go). If a black flag is raised (probably accompanied by a shout) there is a general recall (false start) and all competitors are to return to the start.
In the event of cutting corners you can protest by shouting "Protest X (X being the person's name)!" If someone doesn't go round the buoy, you can IM the race officer and suitable action will be taken.
REMEMBER These rule are in place to make the race fair and the race is only being run so we can have fun :-)

Sparker T, who makes frequent references to his passion for sailing in real life, has taken the opportunity to introduce to some of the terminology of real-life competitive sailing to those ignorant of the subject. Lave (1996) has objected to the commonly made distinction between 'abstract' knowledge of the school setting as opposed to the 'authentic' site of everyday life, pointing out instead that knowledge undergoes transformation as it is made appropriate to a new purpose. This transformational purpose, deemed learning, is evident here.

Chat logs of the second regatta show different participants learning different things simultaneously. Some worked on specific Second Life skills, and Sparkers worked

together on controlling boats, making objects phantom, or using and developing scripts. Meanwhile, staff were helping each other to increase their camera-control skills, and some Sparkers were helping staff to control boats. Other participants were leaving the Second Life environment to create wiki pages and tables or to add to forum threads.

Figure 3: A collision during the first regatta

Real-world skills included the practicalities of organising and running a three-day event, along with the advanced Second Life skills needed to manage the regatta, and the significant planning and follow up demonstrated in the wiki and forum coordination. Sparkers are also observed to have developed additional soft skills that require a more complex level of analysis. With reference to Knowledge Age Skills Bereiter and Scardamalia (2006) ask 'Is there any such thing as a problem-solving skill, in anything like the sense that there is keyboarding skill or automobile driving skill?' We argue that Sparkers involved in the organisation and execution of the regatta showed advanced problem-solving and other knowledge age skills including communication, confidence, creativity, motivation and teamwork as evidenced by Sparker T, the main organiser and overseer of both regattas. With key relevance to this paper's notion of fluid leadership, Sparker T specifically evidenced knowledge age leadership skills, demonstrating management through the following activities:

- Applies own knowledge of real-life racing.
- Asks a student who is a confident wiki user to add a table to the regatta page.
- Organises race, deals with objections and technical issues
- Gives other students opportunities to take responsibility.
- Manages administrative issues, for example, tells fellow officers to display their title above their avatars' heads.
- Explains technical terminology, for example, 'protest'. Clarifies rules.

In the following quote from the Schome wiki, Sparker T (in italics) works to increase the confidence of a staff member and boost motivation and participation among other potential sailors:

> OK so I am not the world's greatest sailor - but heck I couldn't even work out when I was meant to start yet alone where I was meant to go ... not assisted by the fact that the SL client crashed 4 times in 45 minutes (which I dare say was not helped by the fact that my PC was doing a scheduled disc backup at the time) .. ho hum - if anyone is offering powerboat lessons then I guess I better sign up ...
> *Lessons were being offed to everyone before the races and it was just a fun race hope to see loads there at our second day tommorow!!!!! [Sparker T]*

Although a regular and active participant in the Schommunity, it is fair to say that Sparker T would not generally be referred to as a leader. However, empowered by his indepth, pre-existing knowledge and understanding of the subject at hand, and unencumbered by imposed directional leadership and/or curriculum, he was confident in demonstrating leadership for the duration of this event.

Conclusions

Enabling learners with the sense of physical proximity and opportunity for multimodal synchronous communication afforded by this environment has allowed them to explore identities with new forms of representation, create and explore lived experiences and challenge the conventions of their experiences with traditional teacher learner relationships.

Wenger, McDermott & Snyder, (2002) p. 57 modelled degrees of participation in a community of practice. In their discussion of their model they add the observation that 'community members move through these levels'. With this essential, additional element to the model, we feel it fits the concept of fluid leadership in the Schome community of practice that we have been developing in this paper, where fluid leadership is enabled for learners in the core group (see Figure 3 below).

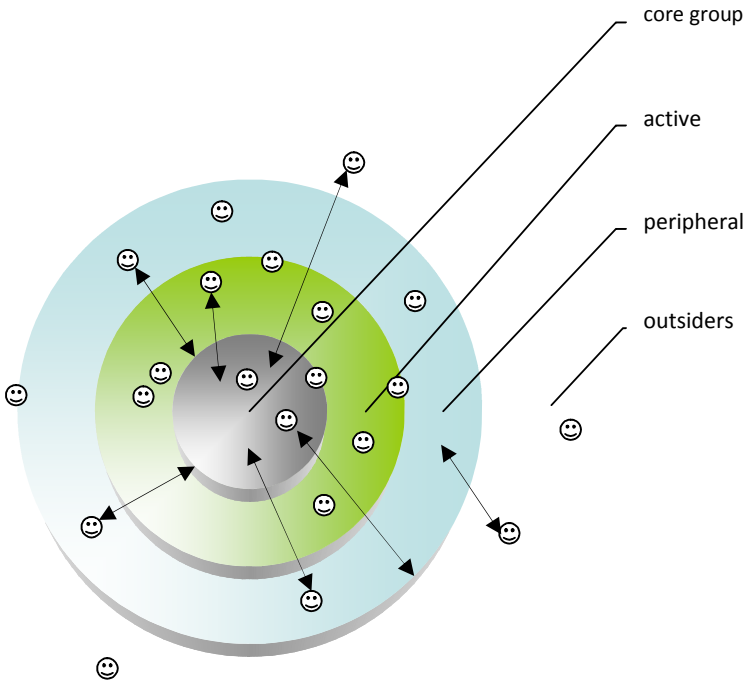

Figure 4: Degrees of Community Participation

There is however a complexity here in that when we study any sphere of activity in Schome Park, such as the regattas, we are led to consider whether each such sphere is itself at least an emergent community of practice. Arguably, Schome Park is a set of multiple, overlapping communities which are building different practices. People can be expert at one set of practices, but on the periphery of others. If the Schome Park project were to expand further we undoubtedly would wish to explore this notion in more depth. However, since any reasonably large grouping of people in any of the structures illustrated in Table 1 will be likely to include some degrees of specialising sub-groups, we will remain with the notion of the community of practice in this analysis.

Interconnected social milieux such as that provided by the Schome Park project offer learning options that are 'critical, collaborative, creative, and futures-oriented' (Cohill, 2000). Collective action undertaken to construct, solve problems, and work out socially acceptable ways of cooperating in a virtual world may chime with visions of a collaboratively working citizen working towards a more socially responsible society (Giroux, 2000). Denton (1991) argues that 'fluid leadership' is necessary for a future where decisions are becoming increasingly complex: '...in truly flexible and adaptive and organisations, one should be able to call on different parts of the organisations to make decisions based on *competency*, not on position.' However, the current (UK, as US) education system may be viewed as being based above all on the achievement of individual qualifications as learning goals, aligning with an ethos of the student as individual consumer chasing individual enrichment, particularly in material terms. We propose fluid leadership as the essential bridging concept between the kind of individual action that at a particular point moves an activity forwards, and the collaboration that is essential, in such a community of practice as Schome Park, to foster its achievements.

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